IN THE CLAIMS

1.   (currently amended) A data processing apparatus for ~~reproducing~~ receiving data from ~~a memory device~~ or ~~for recording~~ delivering data ~~into~~ a ~~memory~~ storage device, the storage device being external to said data processing apparatus and including a memory, the data received from the external storage device being reproduced from the memory and the data delivered to the external storage device being recorded in the memory, the ~~recording~~ receiving or ~~reproducing~~ delivering ordinarily being carried out on condition that mutual authentication between said data processing apparatus and the ~~memory~~ storage device is successful, said data processing apparatus comprising:

a virtual ~~memory~~ storage device;

a first structure operable to alternatively execute the mutual authentication with said virtual ~~memory~~ storage device when the ~~memory~~ external storage device does not include a structure operable to execute the mutual authentication; and

a second structure operable to ~~reproduce~~ receive the data from the ~~memory~~ external storage device or ~~record~~ to deliver the data ~~into~~ the ~~memory~~ external storage device when the mutual authentication with said virtual ~~memory~~ storage device is successful.

2.   (currently amended) The data processing apparatus according to Claim 1, further comprising a structure operable to first execute the mutual authentication with the ~~memory~~ external storage device by initially checking whether the ~~memory~~ external storage device includes the structure operable to execute the mutual authentication.

3.   (currently amended) The data processing apparatus according to Claim 1, ~~further comprising:~~ wherein

a key is provided for authenticating distribution of an enabling key block, ~~said~~ the key having been previously

enciphered by the enabling key block, the enabling key block containing enciphering data for enciphering renewal keys which are located on various paths of a hierarchical key tree structure, the hierarchical tree structure having a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, whereby a given one of the plurality of paths of the key structure extends from a specific one of the roots to a ~~paricular~~ particular one of the leaves of said key tree structure, the leaves of the tree structure being respectively associated with a plurality of data processing apparatuses, the enciphering data including upper-rank keys in said tree hierarchy which are enciphered by lower-rank keys; and

said first structure executes the mutual authentication ~~between said structure of said data processing apparatus and~~ with said virtual ~~memory~~ storage device ~~being executed~~ by applying said enabling key block distribution authenticating key and another authenticating key previously stored in said virtual ~~memory~~ storage device.

4.   (currently amended) The data processing apparatus according to Claim 3, wherein

said first structure ~~data processing apparatus is able to~~ decodes said enabling key block only when said data processing apparatus is properly licensed and is unable to decode the enabling key block when said data processing apparatus is devoid of a proper license; and

said data processing apparatus devoid of the proper license being prevented from illegally implementing mutual authentication with said virtual ~~memory~~ storage device by revoking said improper data processing apparatus.

5.   (previously presented)   The data processing apparatus

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according to Claim 3, further comprising means for subjecting said enabling key block distribution authenticating key to a version controlling process by executing a process for renewing individual versions.

6.   (currently amended) The data processing apparatus according to Claim 1, ~~further comprising:~~wherein

a key tree structure is provided comprising a plurality of keys associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and having a plurality of paths whereby a given one of the paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, a plurality of data processing apparatuses being respectively associated with the leaves of the tree, and said data processing apparatus further comprises:

means for enciphering leaf-keys associated with the leaves using a storage key that is proper to an individual one of said data processing apparatuses and then storing the enciphered leaf-key in a memory means within a corresponding data processing apparatus.

7.   (currently amended) The data processing apparatus according to Claim 1, ~~further comprising:~~wherein

a key tree structure is provided comprising a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, and having a plurality of paths that extend from the roots to the leaves of said key tree structure, a plurality of data processing apparatuses respectively corresponding to the leaves of the tree and to leaf-keys that further correspond with the leaves, and

a device key block is stored in a memory within the processing apparatus, the key block being an assemblage of ciphered keys comprising mutually different individually

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enciphered node keys of plural steps extending from the leaves of the tree structure up to upper-rank keys of the key tree structure.

8.   (currently amended) A ~~data processing~~ method for ~~reproducing~~ transferring data ~~from~~ between a data processing apparatus and a ~~memory~~ storage device, ~~or recording data into~~ the ~~memory~~ storage device being external to the data processing apparatus and including a memory, the data transferred to the external storage device being recorded in the memory and the data transferred from the external storage device being reproduced from the memory, said ~~data processing~~ method comprising:

    executing mutual authentication ~~with~~ between the data processing apparatus and a virtual ~~memory~~ storage device provided within ~~a~~ the data processing apparatus when the ~~memory~~ external storage device does not include a mutual authentication function; and

    transferring ~~reproducing~~ the data from the ~~memory~~ external storage device to the data processing apparatus or ~~recording the data into~~ from the data processing apparatus to the ~~memory~~ external storage device on condition that the mutual authentication between the data processing apparatus and the virtual ~~memory~~ storage device is successful.

9.   (currently amended) The ~~data processing~~ method according to Claim 8, further comprising:

    identifying, prior to said executing step, whether the ~~memory~~ external storage device is capable of executing said mutual authentication; and

    alternatively executing a mutual authentication between the data processing apparatus and the ~~memory~~ external storage device when execution of said mutual authentication between them is possible.

10.   (currently amended) The ~~data processing~~ method

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according to Claim 8, wherein

the data processing apparatus includes an enabling key block distribution authenticating key previously enciphered by an enabling key block, the enabling key block including data for enciphering renewal keys that are located on a path of a key tree structure having a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the tree structure, the paths extending from the roots to the leaves of said key tree structure, a plurality of data processing apparatuses being respectively associated with the leaves, the enciphering key also including data for enciphering upper-rank keys via lower-rank keys, ~ and

said mutual authentication process between the data processing apparatus and the virtual ~~memory~~ storage device ~~being~~ is executed by applying the enabling key block distribution authenticating key and the other authenticating key previously stored in the virtual ~~memory~~ storage device.

11.   (currently amended) A license system disposed within a data processing apparatus for providing a ~~data processing apparatus with~~ license control of the transfer of data between the data processing apparatus and a storage device, the storage device being external to the data processing apparatus and including a memory, the data transferred to the external storage device being recorded in the memory and the data transferred from the external storage device being reproduced from the memory, said license system comprising:

means for providing an enabling key block distribution authenticating key, the enabling key block distribution authenticating key being previously enciphered by an enabling key block containing data for enciphering renewal keys located on paths of a key tree structure, the key

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structure having a plurality of keys associated with various roots of the key tree structure, nodes of the key tree structure, and leaves of the tree structure, whereby a given one of the plurality of paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, a plurality of data processing apparatuses being associated with the leaves, the enabling key block also comprising data for enciphering upper-rank keys via lower-rank keys;

a virtual ~~memory~~ storage device;

means for ~~reproducing~~ receiving data from ~~a memory device~~ or ~~recording~~ delivering data ~~into~~ the ~~memory~~ external storage device on condition that mutual authentication is successfully effectuated between said data processing apparatus and the ~~memory~~ external storage device, ~~or~~ and when the ~~memory~~ external storage device does not include means for carrying out the mutual authentication, on condition that mutual authentication is successfully effectuated between said data processing apparatus and said virtual ~~memory~~ storage device; and

means for enabling ~~only a properly licensed~~ the data processing apparatus to decode the enabling key block that provides the enabling key block distribution authenticating key among the plurality of data processing apparatuses when the data processing apparatus is properly licensed, and for preventing ~~a~~ the data processing apparatus ~~devoid of the proper license~~ from illegally decoding the enabling key block when the data processing apparatus is devoid of the proper license, thereby preventing the data processing apparatus devoid of the proper license from illegally effectuating authentication with said virtual ~~memory~~ storage device and illegally utilizing contents data.

12. (currently amended) A computer-readable medium

provided with a computer program for executing a method of ~~reproducing~~ transferring data ~~from~~ between a data processing apparatus and a ~~memory~~ storage device, ~~or recording data into~~ the ~~memory~~ storage device being external to the data processing apparatus and including a memory, the data transferred to the external storage device being recorded in the memory and the data transferred from the external storage device being reproduced from the memory, said ~~data processing~~ method comprising:

executing mutual authentication ~~with~~ between the data processing apparatus and a virtual ~~memory~~ external storage device provided within ~~a~~ the data processing apparatus when the ~~memory~~ external storage device does not include a mutual authentication function; and

transferring ~~reproducing~~ the data from the ~~memory~~ external storage device to the data processing apparatus or ~~recording~~ from the data processing apparatus ~~into~~ the ~~memory~~ storage device on condition that the mutual authentication between the data processing apparatus and the virtual ~~memory~~ storage device is successful.

13.   (currently amended) A data processing apparatus for ~~recording~~ delivering data to or ~~reproducing~~ receiving data from a ~~memory~~ storage device, the storage device being external to said data processing apparatus and including a memory, the data received from the external storage device being reproduced from the memory and the data delivered to the external storage device being recorded in the memory, ~~the~~ said data processing apparatus comprising:

a controller; and

a virtual memory;

wherein the ~~reproducing~~ delivering of data to or ~~recording~~ the receiving of data from the ~~memory~~ external storage device is conditioned upon successful mutual

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authentication between ~~the~~ said controller and ~~the~~ said virtual ~~memory~~ storage when the ~~memory~~ external storage device does not support such mutual authentication.

14. (currently amended) The data processing apparatus of claim 13, wherein prior to performing the mutual authentication between ~~the~~ said controller and ~~the~~ said virtual memory, ~~the~~ said controller determines whether the ~~memory~~ external storage device includes the mutual authentication function, and if so, the recording of data to or reproducing of data from the ~~memory~~ external storage device is alternatively conditioned upon successful mutual authentication between the controller and the ~~memory~~ external storage device.

15. (currently amended) The data processing apparatus of claim 13, wherein the mutual authentication between ~~the~~ said controller and ~~the~~ said virtual ~~memory~~ storage is carried out by applying an authenticating key stored in ~~the~~ said virtual ~~memory~~ storage and an enabling key block distribution authenticating key, wherein the enabling key block distribution authenticating key is previously enciphered by an enabling key block comprising enciphering data for enciphering renewal keys, the renewal keys being located along paths of a hierarchical key tree structure in which a plurality of keys are associated with various roots of the key structure, nodes of the key structure, and leaves of the key tree structure, whereby a given one of the plurality of paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, ~~the~~ said data processing apparatus being associated with one of the leaves of the key tree structure, and ~~said~~ the enciphering data further including upper-rank keys to be enciphered by lower-rank keys.

16. (currently amended) The data processing apparatus according to claim 15, wherein ~~the~~ said data processing apparatus is properly licensed if ~~the~~ said data processing apparatus is enabled to decode the enabling key block, and ~~the~~

said data processing apparatus is devoid of proper licensing if ~~the~~ said data processing apparatus is unable to decode the enabling key block.

17. (previously presented) The data processing apparatus according to claim 15, wherein the enciphered enabling key block distribution authenticating key is subject to a version control process or to a process for renewing individual versions.

18. (previously presented) The data processing apparatus according to claim 13, further comprising a memory for storing an enciphered leaf key, the enciphered leaf key being produced by enciphering a leaf key with a storage key that is associated with the data processing apparatus, the leaf key being part of a hierarchical key tree structure having a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the key tree structure, whereby a given one of the plurality of paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, and wherein the leaf key is associated with the data processing apparatus.

19. (previously presented) The data processing apparatus according to claim 13, further comprising a memory for storing a device key block comprising a plurality of ciphered keys that include mutually different individually enciphered node keys of a hierarchical key tree structure having a plurality of keys respectively associated with various roots of the key structure, nodes of the key structure, and leaves of the key tree structure, and having a plurality of paths whereby a given one of the paths extends from a given one of the roots to a particular one of the leaves of the key tree structure, and wherein one of the leaves is associated with the data processing apparatus.

20. (currently amended) In a device for ~~recording~~ delivering data to or ~~reproducing~~ receiving data from a ~~memory~~

storage device, the storage device including a memory and being external to the device for delivering or receiving, the data delivered to the external storage device being recorded in the memory and the data received from the external storage device being reproduced from the memory, a method comprising:

(a) providing a virtual storage device disposed within the device for delivering or receiving;

(b~a~) executing mutual authentication ~process~ with a~~ the virtual ~memory~ storage device when the ~memory~ external storage device does not include a mutual authentication function, ~~ and

(c~b~) if the mutual authentication ~between the device and~ with the virtual ~memory~ storage device is successful, executing the ~recording~ delivering of the data to or the ~reproducing~ receiving of the data from the ~memory~ external storage device.

21. (currently amended) The method of claim 20, further comprising:

prior to step (a~b~), identifying whether the ~memory~ external storage device includes the mutual authentication function~; and~

if the ~memory~ external storage device includes the mutual authentication function, alternatively executing the mutual authentication function with the ~memory~ external storage device in place of step (a~b~); and

if the mutual authentication with external storage device is successful, executing the delivering of the data to or the receiving of the data from the external storage device in place of step (c).

22. (currently amended) The method of claim 20, wherein the mutual authentication ~process between the device and~ with the virtual ~memory~ storage is carried out by applying an authenticating key stored in the virtual ~memory~ storage together

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with an enabling key block distribution authenticating key, the enabling key block distribution authenticating key being previously enciphered by an enabling key block that includes enciphering data for enciphering renewal keys located along paths of a hierarchical key tree structure having a plurality of keys respectively associated with various roots of the tree structure, nodes of the tree structure, and leaves of the key tree structure, whereby a given one of the plurality of paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, the device being associated with one of the leaves of the key tree structure, and the enciphering data including upper-rank keys that are to be enciphered by lower-rank keys.

23. (currently amended) A license system for providing license control of the transfer of data between a data processing apparatus and a storage device, the storage device being external to the data processing apparatus and including a memory, the data transferred to the external storage device being recorded in the memory and the data transferred from the external storage device being reproduced from the memory, said license system comprising:

means for providing an enabling key block distribution authenticating key enciphered by an enabling key block, the enabling key block including enciphering data for enciphering renewal keys that are located along paths of a hierarchical key tree structure having a plurality of keys respectively associated with roots of the key structure, nodes of the key structure, and leaves of the key tree structure, whereby a given one of the plurality of paths extends from a specific one of the roots to a particular one of the leaves of the key tree structure, at least one of the leaves of the key tree structure being associated with a the data processing apparatus, and said enciphering

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data including upper-rank keys that are to be enciphered by lower-rank keys;

<u>means for enabling the execution of mutual authentication between the data processing apparatus and a virtual</u> ~~memory~~ <u>storage device provided within the data processing apparatus when the external storage device does not include a mutual authentication capability; and</u>

means for ~~reproducing~~ <u>enabling the transfer of</u> data from <u>the external storage device to the data processing apparatus or</u> ~~recording~~ <u>from the</u> data <u>processing apparatus</u> to ~~a memory~~ <u>the external storage</u> device on condition that <u>the</u> mutual authentication between the data processing apparatus and the virtual ~~memory~~ <u>storage</u> device is <u>executed successfully</u> ~~when the memory device does not include means for executing the mutual authentication with the data processing apparatus~~; and

the data processing apparatus being properly licensed if enabled to decode the enabling key block and being devoid of proper licensing if unable to decode the enabling key block.

24. (currently amended) A computer-readable medium for storing computer-executable software code for <u>enabling a data processing apparatus to</u> carry~~ing~~ out a method of ~~recording of~~ <u>delivering</u> data to or <u>the</u> ~~reproducing~~ <u>receiving</u> data from a ~~memory~~ <u>storage</u> device, <u>the storage device being external to the data processing apparatus and including a memory, the data delivered to the external storage device being recorded in the memory and the data received from the external storage device being reproduced from the memory,</u> said method comprising:

executing ~~a~~ mutual authentication with a virtual ~~memory~~ <u>storage</u> device <u>disposed within the data processing apparatus</u> when the ~~memory~~ <u>external storage</u> device does not include a mutual authentication <u>capability</u>~~function~~; and

delivering ~~recording~~ the data to or ~~reproducing~~ receiving the data from the ~~memory~~ external storage device if the mutual authentication with the virtual ~~memory~~ storage device is successful.